3. WORK BY PURCHASER (Continued)

3.6 Furnish building permits only.

3.7 Provide a limited area within the plant, but not necessarily adjacent to the work site, for Contractor's temporary office, sanitary facilities, and storage sheds.

3.8 Supply initial bench marks and base lines for Contractor's use. All other field engineering for lines and elevations shall be Contractor's responsibility.

3.9 Furnish limited amounts of water at existing outlets for drinking and construction purposes.

3.10 Inspect the work during its progress.

3.11 Furnish and install mixer, thermometers, heaters, temperature controllers, insulation, level indicators, level controllers, valves and vents.

4. ENGINEERING DATA

4.1 Tanks shall conform to all applicable standards of the American Petroleum Institute (API) including the latest edition of the Standard Specification No. 650 for Welded Steel Storage Tanks.

4.2 Contractor shall be responsible for adequacy of design such that all tank construction will have sufficient strength to withstand all loads developed with a full tank and wind loads on an empty tank.

4.3 The size of tanks, nozzles and manways shall be as shown on the attached drawings. All flanged nozzles shall be raised face.

4.4 Tanks shall be designed for atmospheric pressure and 150°F.

4.5 Tanks shall be of leak-tight construction.

4.6 Handrails, stairways and ladders shall be in accordance with the attached Specification for Platforms, Stairways and Ladders. Each tank shall have handrails and necessary appurtenances as required by API Standard Specification No. 650.

4.7 ACID RESISTANT RUBBER LINING FOR TANKS T-404 AND T-405

1. Lining shall be resistant to 150°F maximum.

2. Lining shall be 1/4-inch thick regular triflex, made by B. F. Goodrich or Purchaser's approved equal.

3. Lining shall be steam cured.

12759

4.7 ACID RESISTANT RUBBER LINING FOR TANKS T-404 AND T-405

4. Lining shall be resistant to the following solutions:

   1. T-404 - 20 per cent caustic solution

   2. T-405 - 15 per cent hypochlorite solution

4.8 FILTER BACKWASH SURGE TANK (T-101)

1. Service: Collection of pressure-filter and carbon bed backwash water and other intermittent flows

2. Number required: One (1)

3. Type: Vertical cylindrical, open top, conical bottom tank (30° cone)

4. Capacity: 102,000 gallons

5. Dimensions: 24-foot diameter, 30-foot sidewall and 7-foot cone base

6. Corrosion allowance: 1/8 inch

7. Operating conditions: Atmospheric pressure 110°F

8. Design conditions: Atmospheric pressure 150°F

9. Material of construction: Carbon steel

10. Mounting: Suitably elevated for access to outlet nozzle and valve with legs or skirt

11. Nozzles:

Number Required	Approximate Size	Type	Service
1		Flanged	Outlet, at base of tank in cone apex, equipped with vortex breaker
1		Flanged, Tangential	Inlet, in cone base of tank near weld line to straight side, equipped with replaceable wear plate
2		Flanged, Tangential	Inlets, in sidewall of tank, one located 12 feet below top and second located 12 feet below first, equipped with replaceable wear plate

4.8.11 (Continued)

Number Required	Approximate Size	Type	Service
1	4"	Flanged	Level controller, bubbler type (low in cone)
1		Flanged	Overflow
1	24"	Flanged W/Blind	Manway

4.9 EFFLUENT SURGE TANKS (T-102 A AND B)

1. Service: Store clarified filtered and pH adjusted (10.5 pH) waste water
2. Number required: Two (2)
3. Type: Vertical cylindrical with cone roof
4. Capacity: 2,000,000 gallons
5. Dimensions: 80-foot diameter by 60-foot high (approximate)
6. Corrosion allowance: 1/8 inch
7. Operating conditions: Atmospheric pressure 110°F
8. Design conditions: Atmospheric pressure 150°F
9. Material of construction: Carbon steel
10. Mounting: Aboveground on concrete pad
11. Nozzles:

Number Required	Approximate Size	Type	Service
1	24"	Flanged W/Blind	Manway (sidewall near bottom)
1	24"	Flanged W/Blind	Roof manway
1	12"	Flanged	Inlet (near top on sidewall)
1	12"	Flanged	Outlet, equalization (near bottom on sidewall)

4.9.11 (Continued)

Number Required	Approximate Size	Type	Service
1	16"	Flanged	Overflow
2	24"	Flanged	Side entering mixers
1	8"	Buttweld	Scaffold cable support
1	2"	Flanged (inside and outside)	Steam to tank heater
1	2"	Flanged (inside and outside)	Condensate outlet heater elements
1	1"	IPS coupling	Thermometer with thermowell (sidewall)
1	8"	Flanged	Gauge hatch
1	1"	Flanged	Level indicator (sidewall near bottom) - pressure transducer with transmitter
2	4"	Flanged	Drain
1	6"	Flanged	Level indicator (roof) float and gauge board
3	18"	Buttweld	Vents in roof

12. Weir boxes shall be furnished and installed as shown on attached drawings.

13. Tanks shall be interconnected by valved connection near bottom for normal equalization, but allowing isolation for maintenance and cleaning.

4.10 50 PER CENT CAUSTIC STORAGE TANK (T-403)

1. Service: Storage of 50 per cent sodium hydroxide solution

2. Number required: One (1)

3. Type: Vertical, cylindrical tank with cone roof

4. Capacity: 120,000 gallons

12762

4.10 50 PER CENT CAUSTIC STORAGE TANK (T-403) (Continued)

5. Dimensions: 26-foot diameter by 32-foot deep

6. Corrosion allowance: 1/8 inch

7. Operating conditions: Atmospheric pressure 110°F

8. Design conditions: Atmospheric pressure 150°F

9. Material of construction: Mild steel

10. Mounting: Concrete pad

11. Nozzles:

Number Required	Approximate Size	Type	Service
1	4"	Flanged	Feed inlet (sidewall near top)
1	3"	Flanged	Outlet to process (sidewall near bottom)
1	4"	Flanged	Outlet to circulating pump (sidewall near bottom)
1	4"	Flanged	Overflow (near top)
1	24"	Flanged W/Blind	Manway (near bottom)
1	24"	Flanged W/Blind	Roof manway
1	1"	IPS coupling	Thermometer with thermowell
1	1"	Flanged	Level indicator (bubbler type)
1	1"	IPS coupling	Thermostatic heater element (filled bulb)
1	8"	Flanged	Gauge hatch
1	6"	Flanged with vent pipe	Vent (roof)
1	8"	Flanged	Overflow

12763

4.11 EMERGENCY CHLORINE DISPOSAL TANK (T-404)

1. Service: Storage of 20 per cent caustic solution
2. Number required: One (1)
3. Type: Vertical, cylindrical with cone roof
4. Capacity: 75,000 gallons
5. Dimensions: 20-foot diameter by 30-foot deep
6. Corrosion allowance: None
7. Operating conditions: Atmospheric pressure 70°F
8. Design conditions: Atmospheric pressure 150°F
9. Material of construction: Rubber lined carbon steel
10. Mounting: Concrete pad
11. Nozzles:

Number Required	Approximate Size	Type	Service
1	3"	Flanged	Inlet 50 per cent caustic supply
1	-	Flanged	Inlet chlorine vent line with internal sparger
1	2"	Flanged	Inlet pump recycle line
1	-	Flanged	Outlet to transfer pump
1	1"	Flanged	Level indicator (diaphragm protected gauge)
1	8"	Flanged	Gauge hatch
1	8"	Flanged	Overflow
1	24"	Flanged W/Blind	Shell manway
1	24"	Flanged W/Blind	Roof manway
1	6"	Buttweld	Vent (center of roof)

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4.12 HYPOCHLORITE SOLUTION SURGE TANK (T-405)

1. Service: Storage of 15 per cent hypochlorite solution
2. Number required: One (1)
3. Type: Vertical, cylindrical, with cone roof
4. Capacity: 110,000 gallons
5. Dimensions: 20-foot diameter by 28-foot deep
6. Corrosion allowance: 1/8 inch
7. Operating conditions: Atmospheric pressure 75°F
8. Design conditions: Atmospheric pressure 150°F
9. Material of construction: Rubber lined carbon steel
10. Mounting: Concrete pad
11. Nozzles:

Number Required	Approximate Size	Type	Service
1	8"	Flanged	Inlet from hypochlorite generation system
1	-	Flanged	Recycle from delivery pump
1	6"	Buttweld	Vent (center of roof)
1	4"	Flanged	Level controller (diaphragm-protected, filled system with pressure transducer)
1	2"	Flanged	Thermometer with thermowell
1	1"	IPS coupling	Float support
2	1-1/4"	IPS coupling	Float guidewire support
1	24"	Flanged W/Blind	Shell manway
1	24"	Flanged W/Blind	Roof manway
1	8"	Flanged	Gauge hatch

12765

4. ENGINEERING DATA (Continued)

4.13 PAINTING

1. The entire exterior of all the tanks (except rubber-covered nozzle flange faces) shall be painted including but not limited to ladder, legs, baseplates, nozzles, manways and manway covers.

2. Tank exteriors shall be given one (1) prime coat of United States Steel Supply Division No. 80-6248 Primer and two (2) finish coats of United States Steel Supply Division No. 80-6507 Black Standard Coal Tar Epoxy Paint.

3. The entire interior of tanks T-101, T-102 A and B and T-403 shall be painted including all nozzles with one (1) prime coat of United States Steel Supply Division No. 80-6348 Primer.

5. CONTRACTOR'S DRAWINGS

1. Furnish equipment approval drawings and permanent reproducible drawings in accordance with attached "Contractor's Drawings - Equipment".

2. Drawings shall be 27 inches by 36 inches in size. Group nonstandard size drawings on standard size sheets.

3. Permanent reproducible drawings shall be on mylar.

4. Design approval drawings - one (1) sepia and six (6) prints.

5. Design and shop assembly drawings - permanent reproducible.

6. Certified outline drawing including anchor bolt setting plan within four (4) weeks of receipt of order - six (6) prints and one (1) permanent reproducible.

6. CORRESPONDENCE AND DESIGN INFORMATION

All correspondence related to design, fabrication and delivery shall be directed to:

Mr. F. A. Baumann, Manager-Projects
United States Steel Corporation
600 Grant Street
Room 1010
Pittsburgh, Pennsylvania 15230

Attention: Mr. W. C. Willard, Project Manager
Telephone: 412-433-6555

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